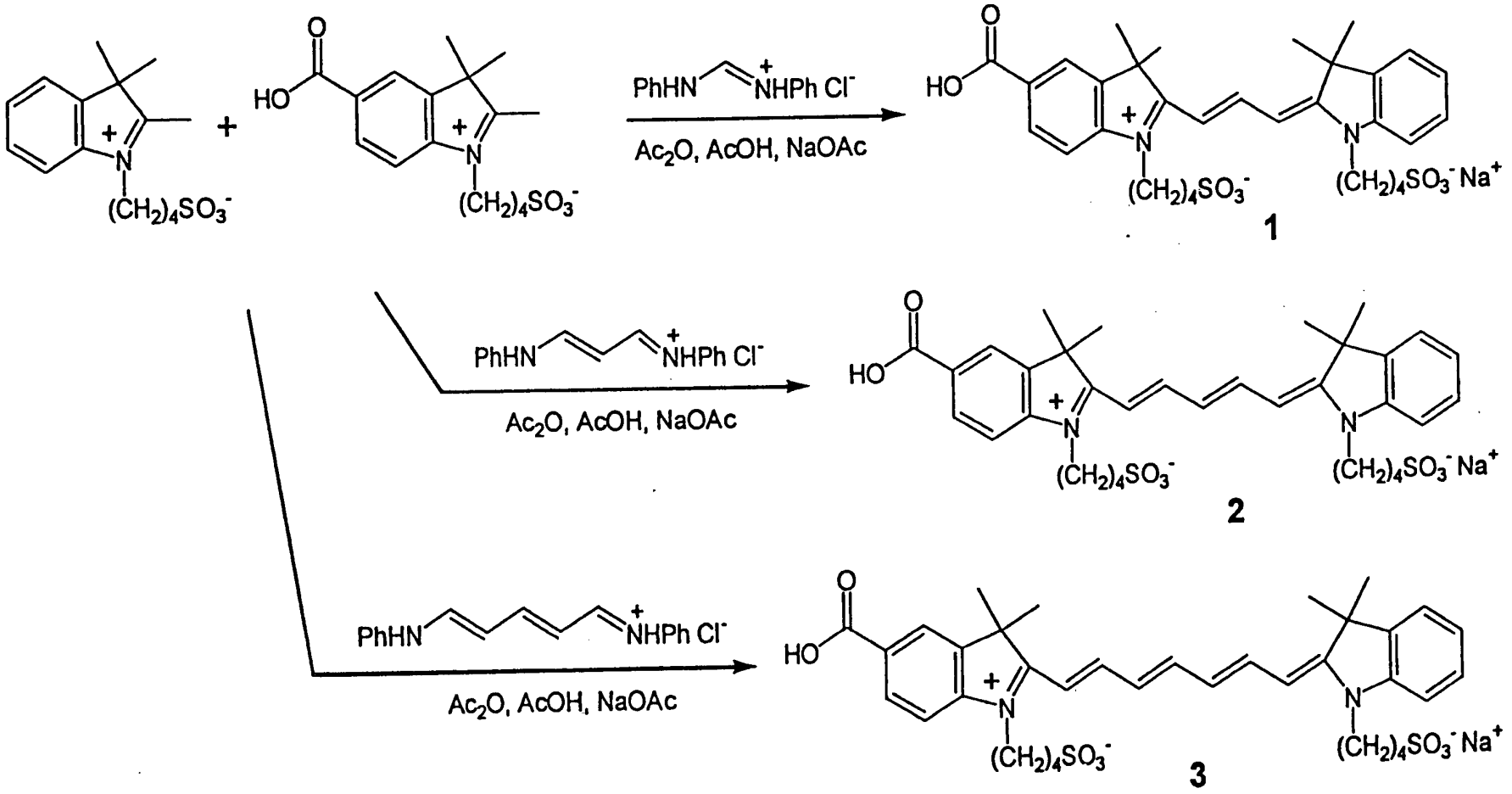


FIG. 1

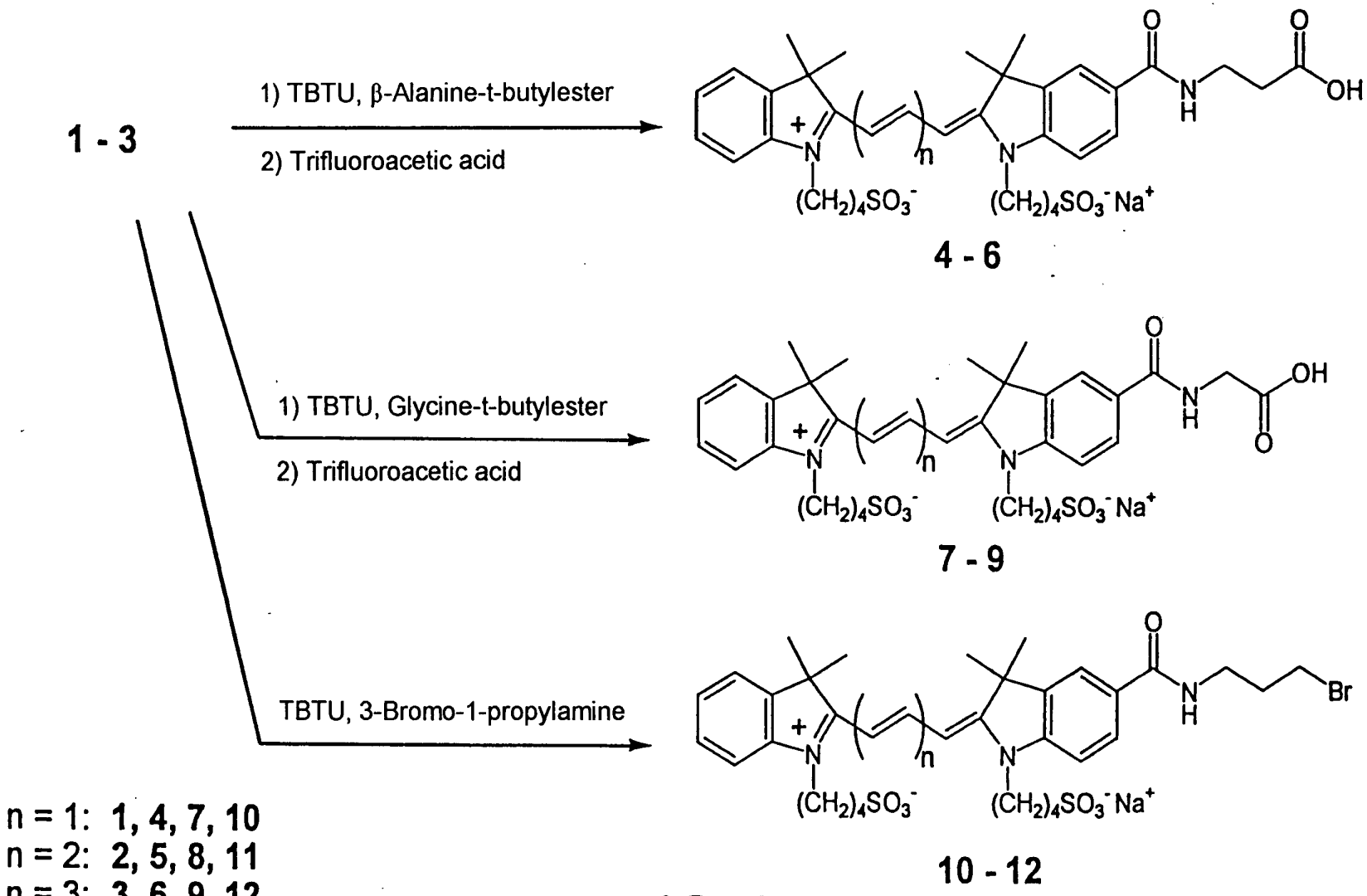

1 - 3
1) TBTU, β-Alanine-t-butylester
2) Trifluoroacetic acid
4 - 6
1) TBTU, Glycine-t-butylester
2) Trifluoroacetic acid
7 - 9
TBTU, 3-Bromo-1-propylamine
10 - 12
n = 1: 1, 4, 7, 10
n = 2: 2, 5, 8, 11
n = 3: 3, 6, 9, 12

FIG. 2

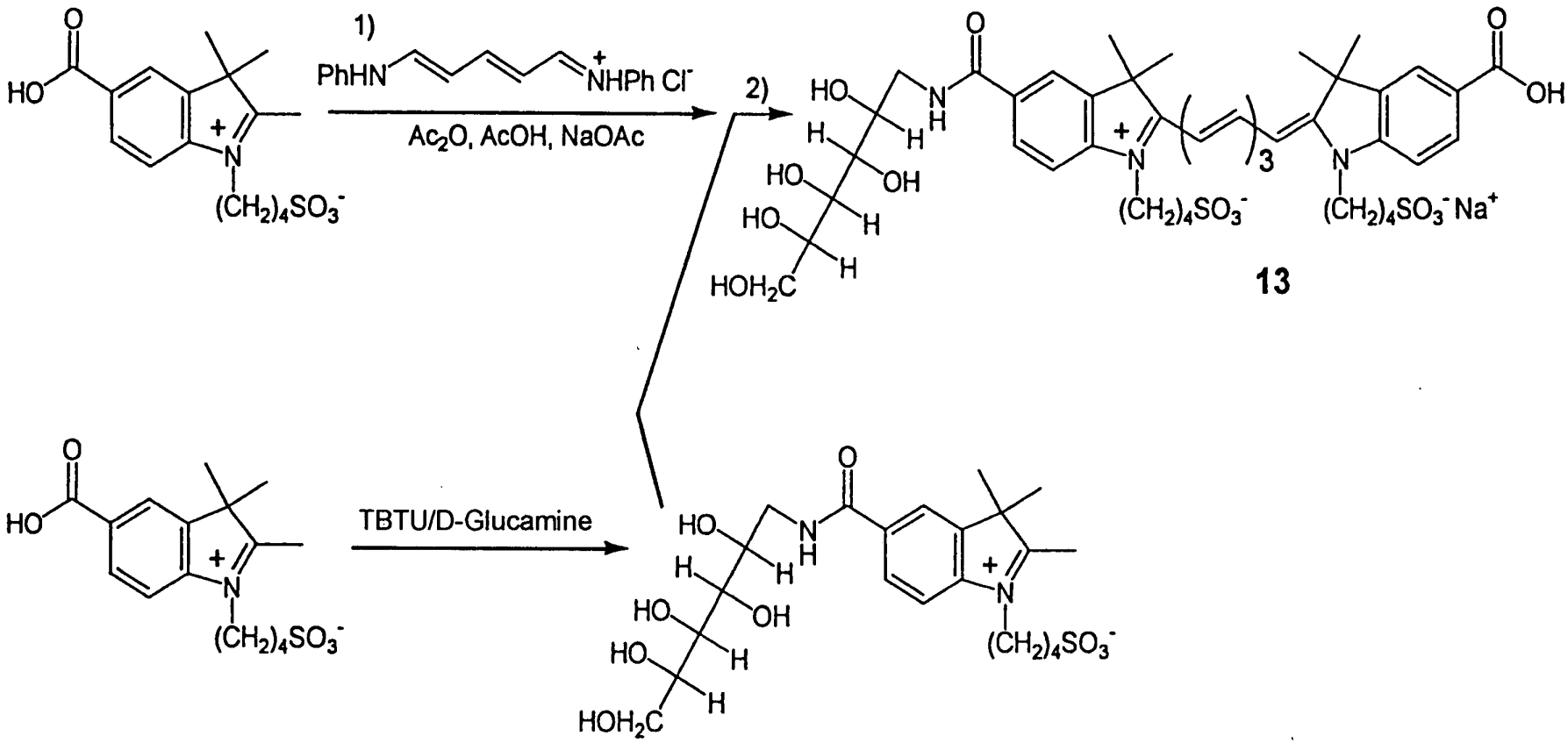

1)
PhHN
NHPh Cl⁻
Ac2O, AcOH, NaOAc
2)
HO
OH
HOH2C
(CH2)4SO3⁻
(CH2)4SO3⁻ Na⁺
3
13
TBTU/D-Glucamine

FIG. 3

Photophysical Properties of Dye-Peptide Conjugates 14-38

Solvent: PBS (phosphate buffered saline, pH 7.4)

Compound #	Absorption Maximum $\lambda_{abs, max}$ (nm)	Fluorescence Maximum $\lambda_{em, max}$ (nm)	Extinction Coefficient ε (ℓ mol^{-1} cm^{-1})
14	556	582	98 000
15	649	675	105 000
16	746	781	125 000
17	749	783	115 000
18	556	580	108 000
19	649	677	110 000
20	746	781	135 000
21	552	580	not determined
22	648	676	111 000
23	746	781	not determined
24	746	783	not determined
25	747	784	121 000
26	748	784	156 000
27	748	784	159 000
28	552	579	102 000
29	648	676	111 000
30	746	781	128 000
31	746	781	not determined
32	748	782	169 000
33	552	579	101 000
34	648	677	121 000
35	746	780	130 000
36	747	781	109 000
37	554	578	99 000
38	648	676	121 000

FIG. 4

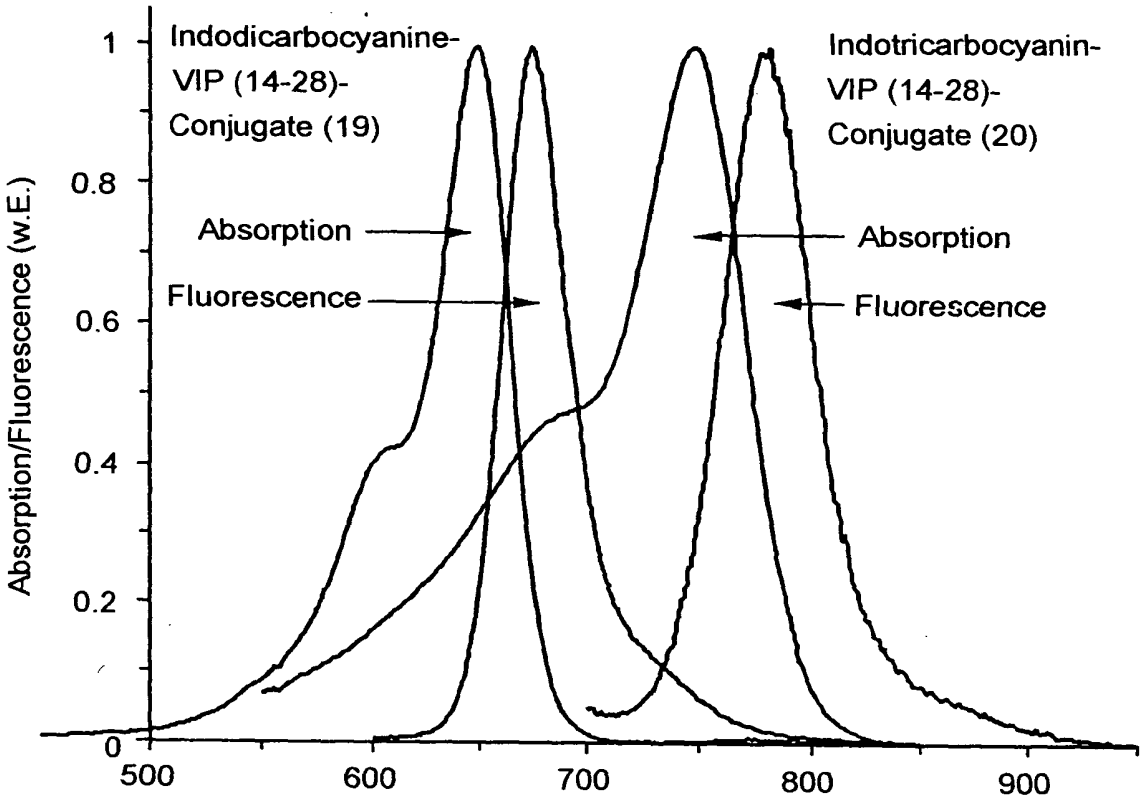
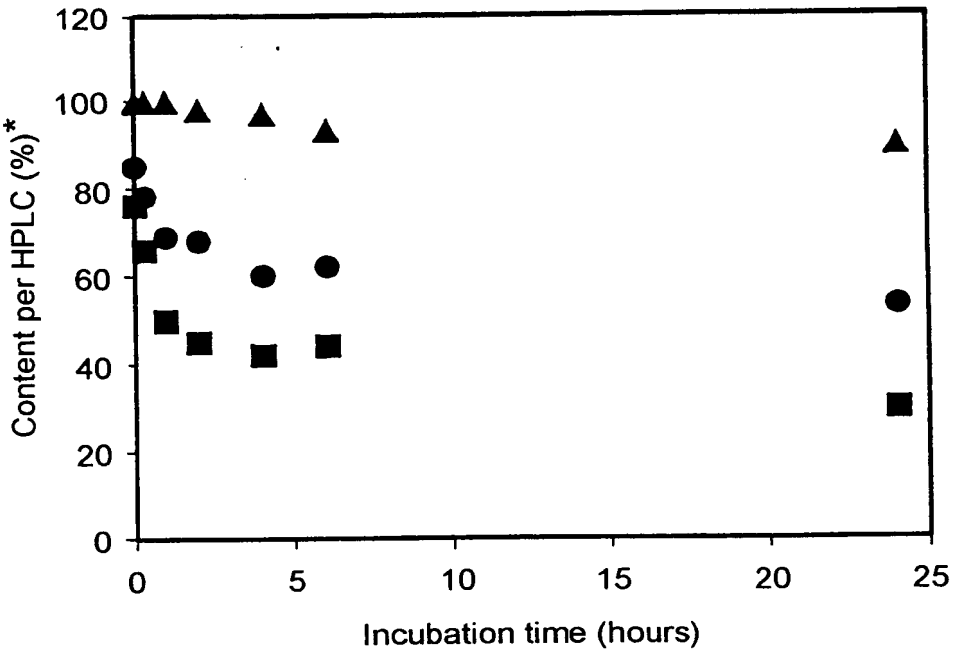

Indodicarbocyanine-
VIP (14-28)-
Conjugate (19)
Absorption
Fluorescence
Indotricarbocyanin-
VIP (14-28)-
Conjugate (20)
Absorption
Fluorescence
Absorption/Fluorescence (w.E.)
1
0.8
0.6
0.4
0.2
0
500
600
700
800
900

FIG. 5



▲ Indotricarbocyanine-D-VIP (14-24)-Conjugate (Example 25)
● Indotricarbocyanine-VIP (14-28)-Conjugate (Example 20)
■ Indotricarbocyanine-VIP (1-28)-Conjugate (Example 16)

*At 750 nm, relative to the control value (1 minute at 0°C)

FIG. 6

	1A	2C	3D	4E	5F	6G	7H	8I	9K	10L	11M	12N	13P	14Q	15R	16S	17T	18V	19W	20Y
1H	46	143	43	33	103	72	100	126	52	156	77	60	45	58	85	68	76	33	25	6
2S	91	93	32	58	167	77	96	184	50	95	131	50	66	235	68	100	152	121	235	121
3D	111	132	100	110	110	75	103	105	66	101	96	69	66	57	54	59	67	89	149	86
4A	100	97	31	33	135	120	62	95	59	77	111	66	56	110	76	130	63	79	172	140
5V	66	81	33	43	100	84	70	107	66	113	105	52	41	72	82	59	114	100	144	95
6F	21	7	18	16	100	22	26	78	105	78	51	4	4	20	28	20	12	9	75	61
7T	53	86	28	29	58	41	63	62	41	69	12	89	36	60	57	68	100	111	94	21
8D	134	178	100	104	231	153	199	223	240	225	208	190	71	250	407	177	219	220	251	184
9N	84	174	45	21	151	125	104	114	102	115	145	100	57	117	153	114	102	89	135	117
10Y	39	81	15	17	88	18	26	40	45	90	63	28	20	27	39	35	26	49	132	100
11T	116	240	33	46	178	106	87	211	216	169	111	146	41	128	246	108	100	112	122	137
12R	49	91	19	25	61	25	42	50	85	60	57	38	15	43	100	38	42	48	80	57
13L	80	113	13	17	86	21	60	84	79	105	80	35	14	49	92	55	45	66	123	87
14R	40	113	9	25	63	26	28	73	87	89	63	23	15	43	100	24	26	49	71	39
15K	72	192	17	33	108	37	57	87	100	104	92	52	15	74	138	49	55	76	81	90
16Q	100	154	19	41	94	39	48	108	106	115	108	69	21	100	150	73	84	120	174	107
17M	78	129	31	54	106	45	74	118	91	111	100	90	18	141	118	70	56	72	126	87
18A	100	137	21	42	133	42	73	92	159	115	122	82	25	104	172	78	60	99	137	95
19V	110	149	12	15	80	26	22	105	28	104	65	19	18	26	49	23	29	100	91	66
20K	69	132	12	29	83	31	42	69	100	78	68	27	12	44	121	35	27	50	88	72
21K	61	104	29	46	75	22	46	51	100	69	66	59	11	65	94	49	46	66	117	67
22Y	19	83	8	10	97	15	21	49	24	53	35	14	14	18	42	17	18	62	115	100
23L	17	43	10	13	42	14	17	70	22	100	29	15	18	20	26	13	14	31	57	28
24N	111	160	35	54	95	26	59	125	76	79	136	100	28	85	80	95	73	141	191	65
25S	75	134	40	37	85	54	61	80	89	63	83	92	24	67	116	100	68	39	145	108
26I	25	46	9	12	76	13	21	100	47	119	58	15	9	24	65	112	40	85	115	122
27L	65	68	23	18	124	76	34	109	36	100	60	34	19	31	51	56	47	71	93	80
28N	69	104	45	59	88	81	55	53	70	72	82	100	17	69	62	60	60	61	108	32
	1A	2C	3D	4E	5F	6G	7H	8I	9K	10L	11M	12N	13P	14Q	15R	16S	17T	18V	19W	20Y

FIG. 7